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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/491,991	01/26/2000	Dean Cheng	81862P167	9322

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EXAMINER	
TODD, GREGORY G	

ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/491,991	CHENG ET AL.	
	Examiner	Art Unit	
	Gregory G. Todd	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to applicant's amendment filed, 30 August 2006, of application filed, with the above serial number, on 26 January 2000 in which claims 1, 3, 8-12, 14, 16-18, 20, 21, 25-29, 31, 33-35, 38, 43-46, 48, 50-52, 54, 55, 59-63, 65, and 67-68 have been amended. Claims 1-68 are therefore pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-7, 10-15, 18-24, 27-32, 35-41, 44-49, 52-58, and 61-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al (hereinafter "Fukuta", 5,090,011) in view of Proctor, Jr. et al (hereinafter "Proctor", 6,563,809).

As per Claims 1, 18, and 52, Fukuta discloses a method, apparatus and a computer program product, wherein Fukuta discloses:

determining a congestion status associated with a node in the network (at least col. 4, lines 55-62; col. 7, lines 24 – col. 8 line 38), the congestion status being represented by a transit flag accessible to at least one other node in the network to determine if a call is routed through the node (at least col. 15, lines 13-36); and

broadcasting the congestion status from the node to the at least one other node in the network (at least Fig. 1, 13; col. 4, lines 55-62; transmitting to source node from switch).

Fukuta fails to explicitly disclose the congestion status notice being broadcast to and associated with a node in a single peer group or a hierarchical level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claims 2, 19, 36, 53.

measuring a node condition (threshold value) at the node, the node condition corresponding to the congestion status (at least col. 12, lines 1-15).

As per Claims 3, 20, 37, 54.

setting the transit flag, if the congestion status indicates a congestion, to indicate that a call through the node is avoided unless the node is a terminating node (at least col. 15, lines 7-67; eg. flag "1" denoting congestion state); and

resetting the transit flag, if the congestion status does not indicate a congestion, to indicate that the node is not restricted for transit (at least col. 15, lines 7-67).

As per Claims 4, 12, 21, 29, 38, 46, 55, 63.

the node is a transit node or a terminating node (at least Fig. 13).

As per Claims 5, 13, 22, 30, 39, 47, 56, 64.

Fukuta fails to explicitly disclose the node is a logical node in the hierarchical level, the logical node corresponding to a peer group at a next lower level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claims 6, 23, 40, 57.

Fukuta fails to explicitly disclose the at least one other node is one other logical node in the hierarchical level, the one other logical node corresponding to one other peer group at a next lower level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claims 7, 15, 24, 32, 41, 49, 58, 66.

the network is an asynchronous mode transfer (ATM) network (at least col. 1, lines 11-20).

As per Claims 10, 27, and 61, Fukuta discloses a method, apparatus, and a computer program product to manage congestion in a network, the method comprising:

receiving a congestion status (congestion notice) associated with a node in a network, the congestion status corresponding to a measured node condition at the node and being broadcast by the node to at least one other node in the network, the

congestion status being represented by a transit flag accessible to the at least one other node to determine if a call is routed through the node (at least Fig. 1, 13; col. 15, lines 13-36); and

routing the call based on the received congestion status (polling) (at least Fig. 26; col. 16, lines 21-40).

Fukuta fails to explicitly disclose the congestion status notice being broadcast to and associated with a node a single peer group or a hierarchical level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claims 11, 28, 45, 62.

accessing the transit flag set by the node (at least col. 15, lines 54-64).

As per Claims 14, 31, 48, 65.

routing the call to the node if the node is a terminating node;

routing the call to the node if the node is a transit node and the congestion status indicates that the node is not congested (polling) (at least Fig. 13, 26; col. 16, lines 21-40); and

routing the call to an other node if the node is a transit node and the congestion status indicates that the node is congested (at least col. 15, lines 13-67; eg. flat indicates congestion).

As per Claim 35, Fukuta discloses a system interfacing to a network wherein Fukuta discloses:

a processor coupled to the network (at least col. 15, lines 19-26); and

a memory coupled to the processor (at least col. 15, lines 19-26), the memory managing congestion in the network, when executed causing the processor to:

determine a congestion status associated with a node the network, the congestion status being represented by a transit flag accessible to at least one other node in the network to determine if a call is routed through the node (at least col. 15, lines 13-36; col. 4, lines 55-62; col. 7, lines 39-47); and

broadcast the congestion status from the node to the at least one other node in the network (at least Fig. 1, 13).

Fukuta fails to explicitly disclose the congestion status notice being broadcast to and associated with a node in a single peer group or a hierarchical level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base

stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claim 44, Fukuta discloses a system interfacing to a network wherein Fukuta discloses:

a processor coupled to the network (at least col. 15, lines 19-26); and

a memory coupled to the processor (at least col. 15, lines 19-26), the memory managing congestion in the network, when executed causing the processor to:

receive a congestion status (congestion notice) associated with a node in the network, the congestion status corresponding to a measured node condition at the node and being broadcast by the node to at least one other node in the network, the congestion status being represented by a transit flag accessible to at least one other node in the network to determine if a call is routed through the node (at least col. 15, lines 13-36; Fig. 1, 13); and

route the call based on the received congestion status (polling) (at least Fig. 26; col. 16, lines 21-40).

Fukuta fails to explicitly disclose the congestion status notice being broadcast to and associated with a node in a single peer group or a hierarchical level. However, the

use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

4. Claims 8-9, 16-17, 25-26, 33-34, 42-43, 50-51, 59-60, and 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta in view of Proctor and further in view of Fedyk et al (hereinafter "Fedyk", 6,560,654).

As per Claims 8, 16, 25, 33, 42, 50, 59, 67.

Fukuta and Proctor fail to disclose the node being a private network-to-network interface (PNNI) node. However, the use and advantages for using such an interface is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Fedyk. Fedyk discloses using a PNNI interface within his network (at least col. 3, lines 30-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and implement the use of a

PNNI node in a network being able to monitor and advertise congestion statuses with other nodes on the network since it would allow for the PNNI node to operate over existing network implementations and therefore enhance the expendability and compatibility of Fukuta and Proctor's network.

As per Claims 9, 17, 26, 34, 43, 51, 60, 68.

Fukuta and Proctor fail to disclose the transit flag being a PNNI topology state parameter. However, the use and advantages for using such an interface is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Fedyk. Fedyk discloses using PNNI topology state packets within his network (at least col. 3, lines 30-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and implement the use of a PNNI topology state in an ATM network enabling monitoring and advertising congestion statuses with other nodes on the network since it would allow for the PNNI node to operate over existing network implementations and therefore enhance the expendability and compatibility of Fukuta and Proctor's network by having the PNNI parameters encapsulated within the packets used on the ATM network.

Response to Arguments

5. Applicant's arguments filed 26 February 2006 have been fully considered but they are not persuasive. Applicants argue, substantially, that a) there is no motivation to combine Fukuta and Proctor; b) Fukuta does not suggest broadcasting congestion status to another different node; and c) Fukuta's and Proctor's system communicates at the same level and not a hierarchical level.

In response to applicant's argument a) that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Proctor clearly teaches a congestion indicator signal to identify a congestion state of a node while Fukuta also teaches packet congestion control.

In response to b), Fukuta teaches broadcasting the congestion status to at least one other node in the network (at least Fig. 1, 13) as Fukuta teaches broadcasting to the transmission node, the transmission node/source being a different node than the node with the congestion. Thus, since it is being broadcast to *one other* node, Fukuta teaches the broad claim terminology interpreted in the broadest form. Even using the excerpt Applicant has chosen (see p. 14) of Fukuta (col. 4, lines 55-62), Fukuta clearly states "when a congestion occurs in a switch...the switch unit adds congestion indicating information...to be sent out to the transmission source of the packet." Thus, when the switch experiences congestion within the switch, indicating information of such is sent to another node, being the transmission source. These are two different nodes, and as such the switch is not telling itself there is congestion, it is telling another node, the transmission/ source node. Further, regarding the excerpt taken on p. 16 of Applicants remarks, citing Fukuta col. 5, lines 7-13. Along with Fig. 1, it can seen that Fukuta is transmitting the congestion notice outside of the switch, it simply is not

transmitted, in this case, to the destination, as is clear from the excerpt, and the lines following the excerpt. However, the congestion notice is given to at least the source of the transmission.

In response to c), As taken from the claims, "a node in a single peer group **or** a hierarchical level in the network" (emphasis added). Thus the node can be in a single peer group **or** hierarchical level. Proctor teaches mobile stations receiving and base stations broadcasting a congestion status of the base station. As the claim terminology **is not exclusive**, even *if* such different stations were not to be hierarchical, as Applicant suggests, such a system would be that of peers and thus as the claim states of a single peer group, Proctor teaches the limitations of the claims as the base station would broadcast the congestion status to a peer mobile station. However, Examiner maintains that the base station is at a higher (hierarchical) level than the mobile station in the network configuration as typically many mobile stations would communicate with at least one single or multiple, smaller in scale however, base station(s) which would communicate with each other over one wired network, for example. The mobile stations cannot communicate directly with one another, rather they rely on the base station to communicate with other mobile stations, thus it is easily seen that the mobile stations and base stations are not at the same level.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Fukuta is not relied on for teaching a node in a single peer group a hierarchical

level in the network. Further, Proctor is not relied on for teaching the congestion status corresponding to a measured node condition at the node as in claim 10, rather Fukuta teaches and is relied on for teaching these limitations.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Previously cited Aimoto, Li ["Every node in the network constantly assesses the congestion status of its outgoing links and broadcasts this information to other nodes to which it is directly connected--its neighbor nodes--via control channels." See col. 3, lines 46-64], Yokotani et al, Kapoor, Masuda et al, Illiadis et al, Anbiah et al, Cherukuri et al, Gao et al, Yamato et al, Cha et al, Fukuta et al, Pajuvirta et al, Mairs et al, Daines et al, Song, Murase, Nishihara, Ginossar, Kirschenbaum, and Milles are cited for disclosing pertinent information related to the claimed invention. Applicants are

requested to consider the prior art reference for relevant teachings when responding to this office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory G. Todd whose telephone number is (571)272-4011. The examiner can normally be reached on Monday - Friday 9:00am-6:00pm w/ first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Todd

Patent Examiner

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